

Polycentric governance can compensate an incoherent regime under climate change

The case of multifunctional water use in Oberhasli, Switzerland

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Multipurpose reservoir

Different uses of water

- > Hydropower
- > Drinking water
- > Flood protection
- > Irrigation
- > Artificial snow-making
- > Power storage
- > Water for firefighting
- > Resort area
- > ...





Trift project
Oberhasli, CH

Different natural resources are affected

- > Water
- > Land / space
- > Landscape
- > Nature

Regulated in different public policies and
property rights (= regime)

Regulation of the resource uses

- > Many resource regimes incoherent
 - contradictory incentives in resource management

 - > Global (climate) change
 - environmental changes
 - socio-economic changes

 - > Resources are limited by nature
 - increasing rivalries between resource users
- New challenges to existing regimes and decision-making procedures

Research question

Current situation:

- > competing resource claims
- > low coherence between different resource-regulations

How can an appropriate coordination of resource uses be ensured?

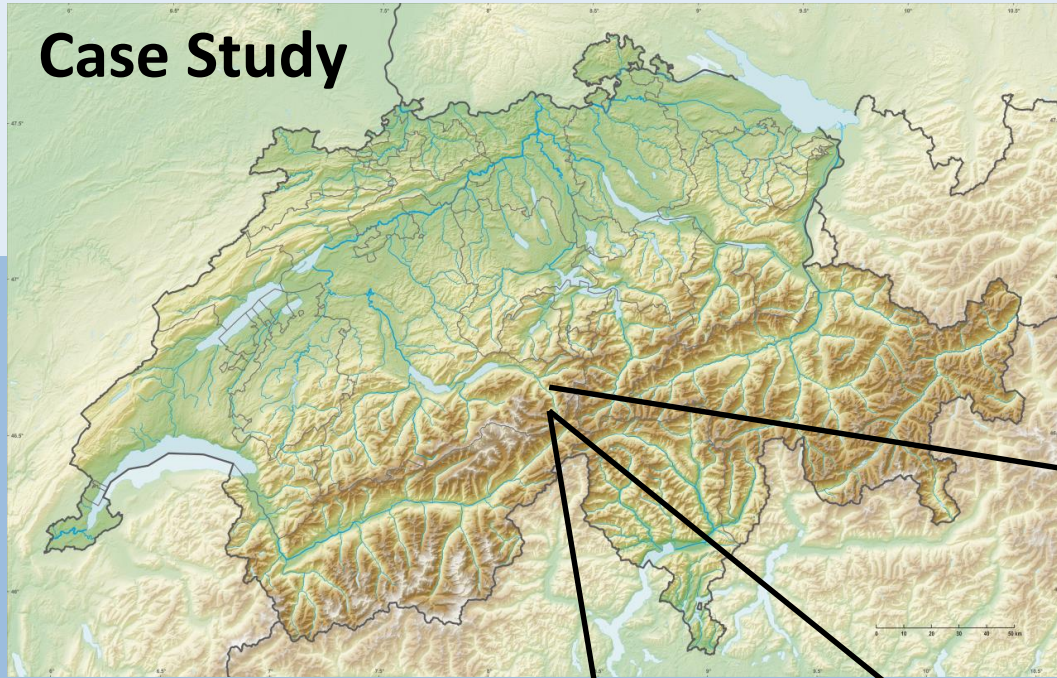
Case Study

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CLIMATE CHANGE RESEARCH

Trift (2017)



Lake Grimsel (1906)



Expansion Lake Grimsel (1999)



Analytical approach and methods

Analytical approach

Institutional Resource Regime (IRR)

(Varone et al. 2002; Knoepfel et al. 2007; Gerber et al. 2009)

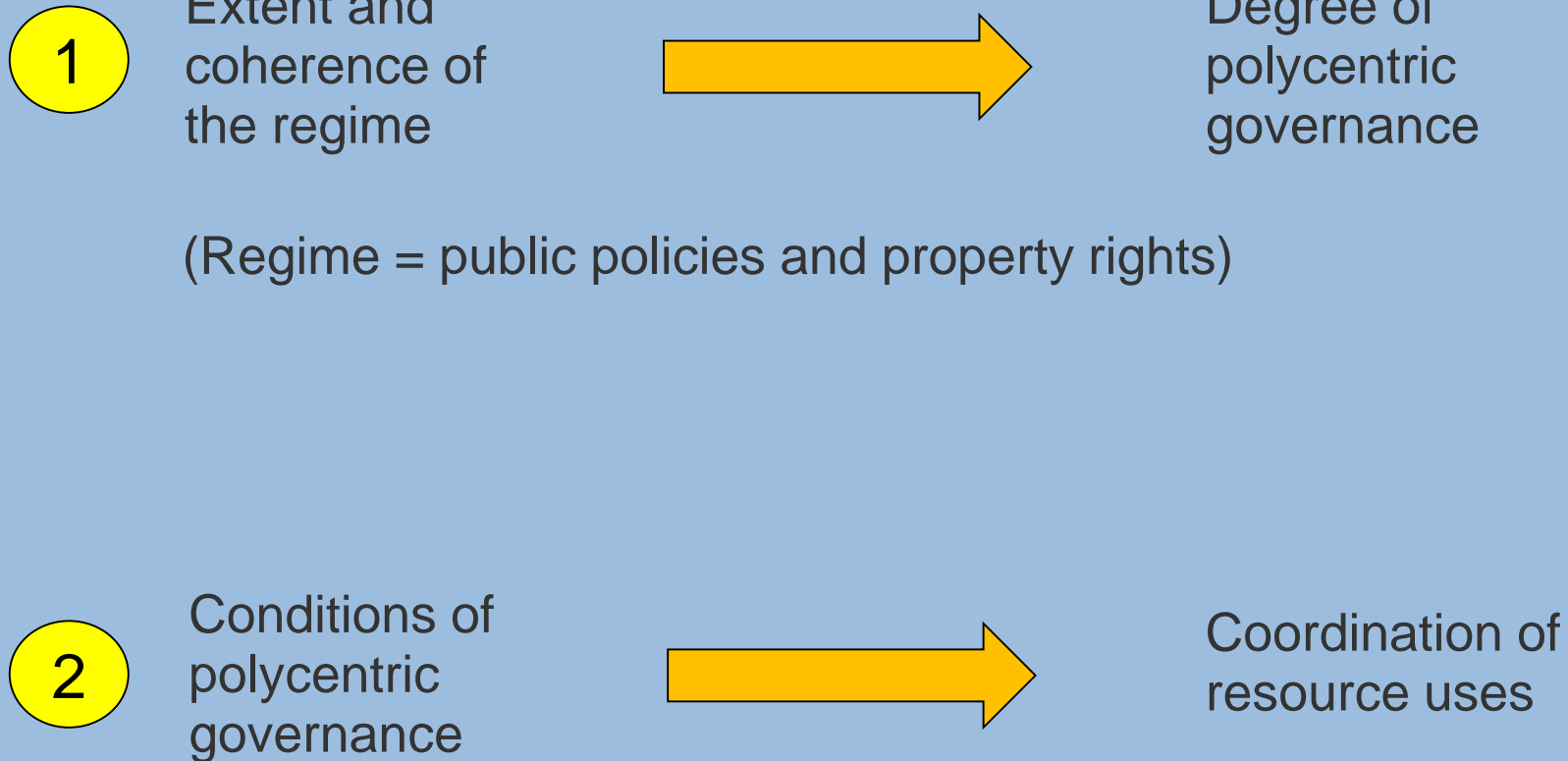
Polycentric Governance

(McGinnis 1999; Ostrom 2010; Pahl-Wostl, Knieper 2014; Carlisle, Gruby 2017; Jordan et al. 2018)

Multiple methods and sources

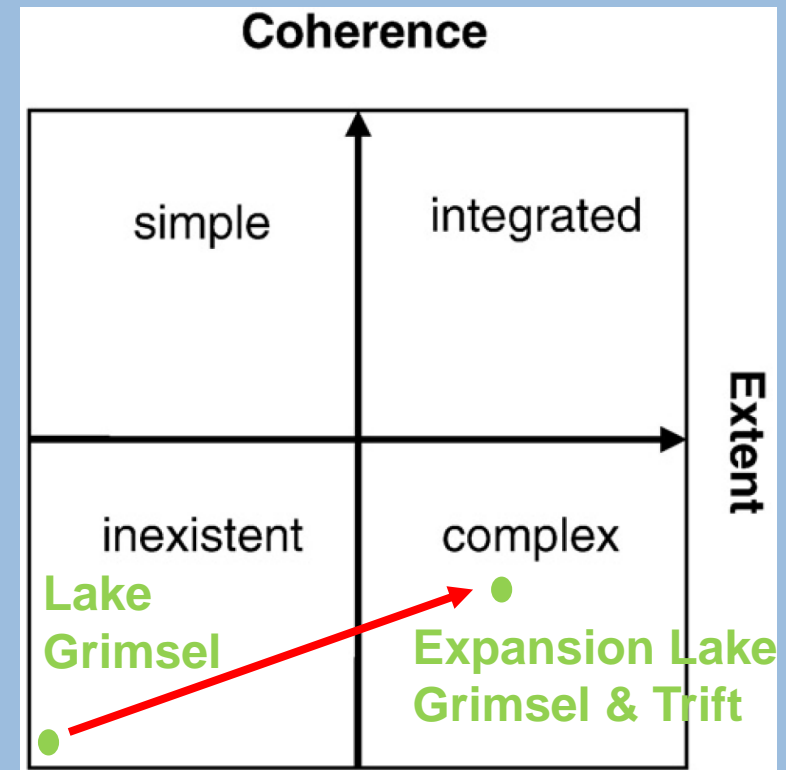
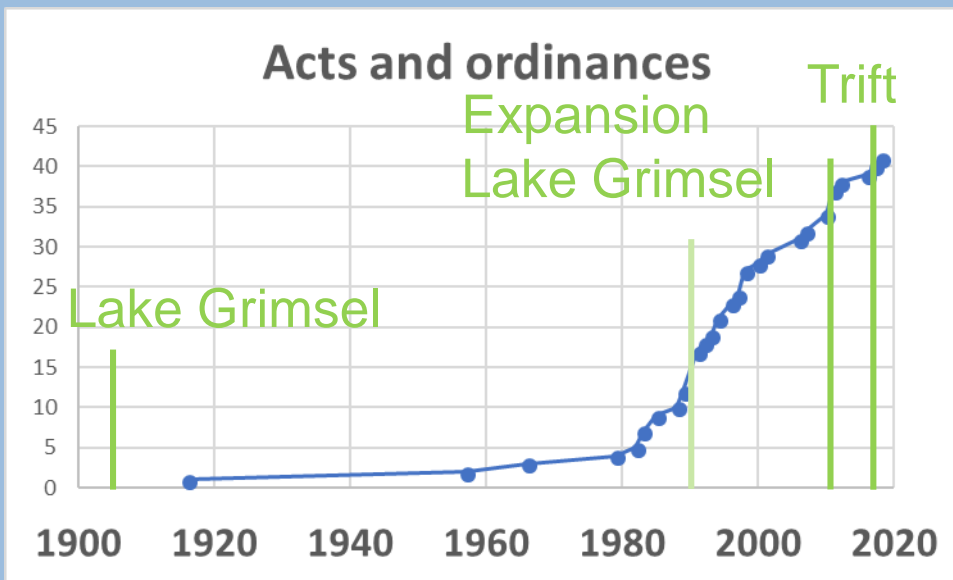
- > semi-structured interviews
- > document analysis of legal materials
- > process tracing

2-Step-approach



1

Typology of the Regime (Institutional Resource Regime)



Conditions of polycentric governance

- > Political authority is dispersed amongst a range of bodies that operate in overlapping jurisdictions which are not in a hierarchical relationship to one another (Jordan et al. 2018)
- > Higher capacity to deal with complex challenges arising from climate change (McGinnis 1999; Ostrom 2010; Pahl-Wostl, Knieper 2014; Carlisle, Gruby 2017; Jordan et al. 2018)
- > 5 key propositions of polycentric governance (Jordan et al. 2018)
 - Local action
 - Mutual adjustment
 - Experimentation
 - Trust
 - Overarching rules

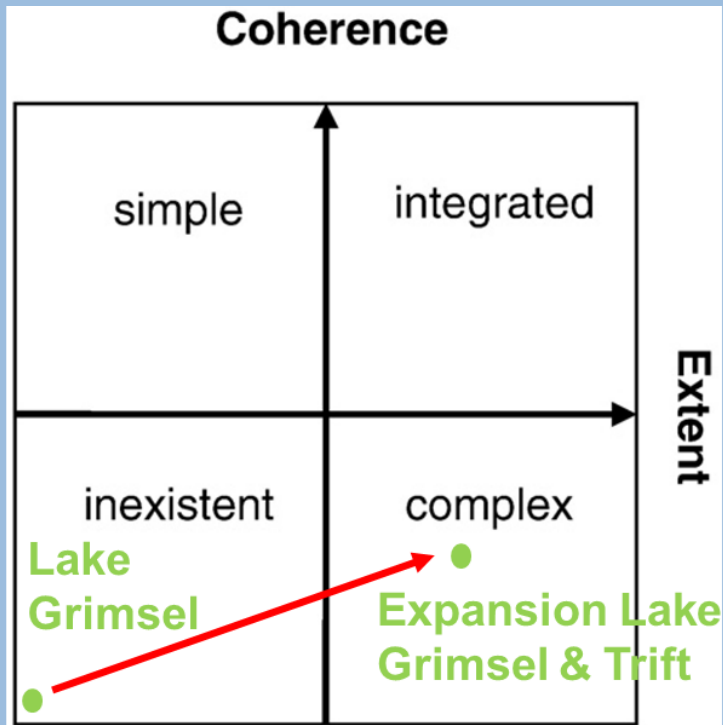
Results

Degree of the polycentricity

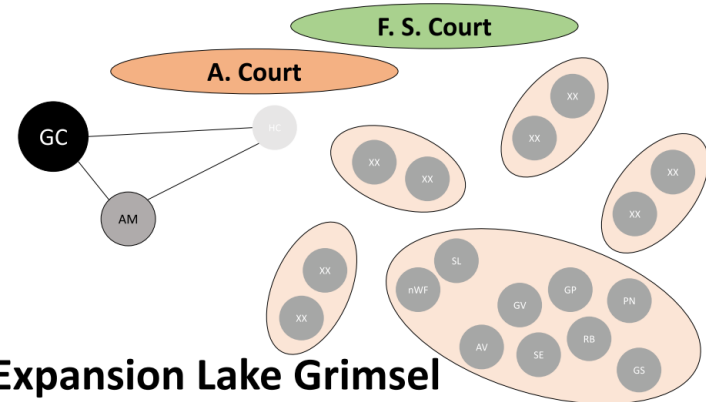
1

Complex regime (high extent and low coherence)

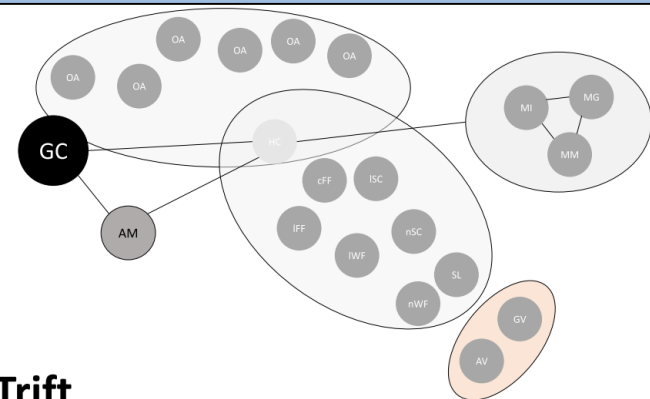
→ high degree of polycentricity



Lake Grimsel



Expansion Lake Grimsel



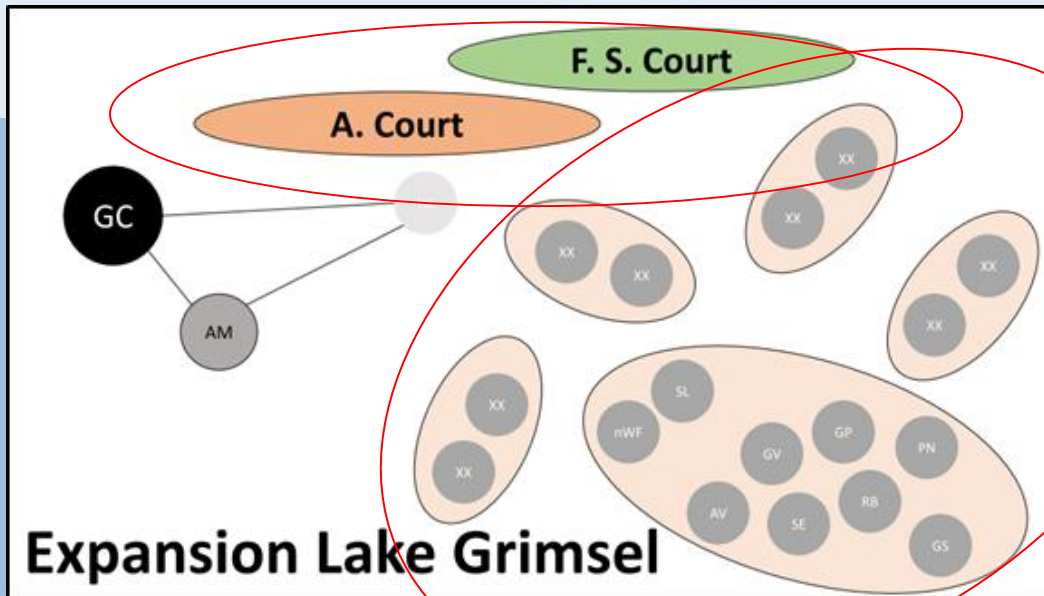
Trift

Results

2

Courts

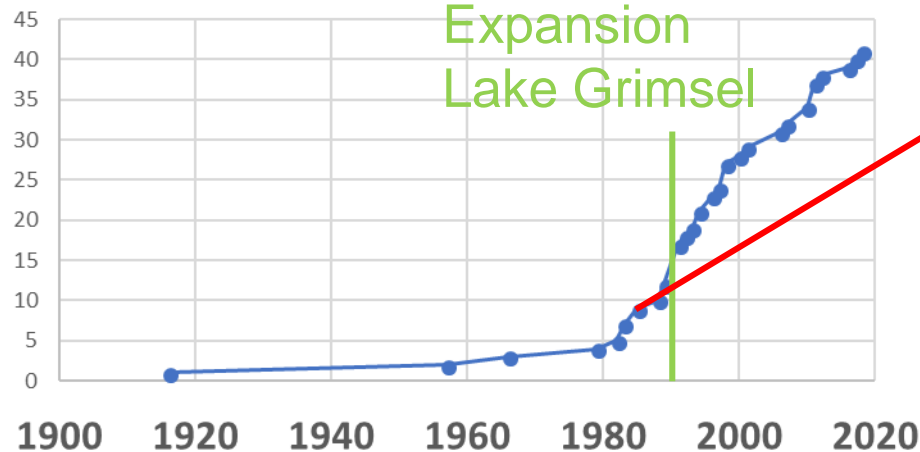
Objections



- > Local action ✓
- > Mutual adjustment ✗
- > Experimentation ✓
- > Trust ✗
- > Overarching rules ✗

Acts and ordinances

Expansion
Lake Grimsel



1987: Rothenthurm Initiative:
Moors protected through the
Federal Constitution

→ Different goals:

- Expansion of hydropower
- Protection of the moor

Argumentations

Argumentation NGOs

- > «Die Konzession ist nicht verträglich mit dem verfassungsmässigen Schutz von wertvollen Moorlandschaften, der seit der Annahme der Rothenthurm Initiative 1987 gilt»

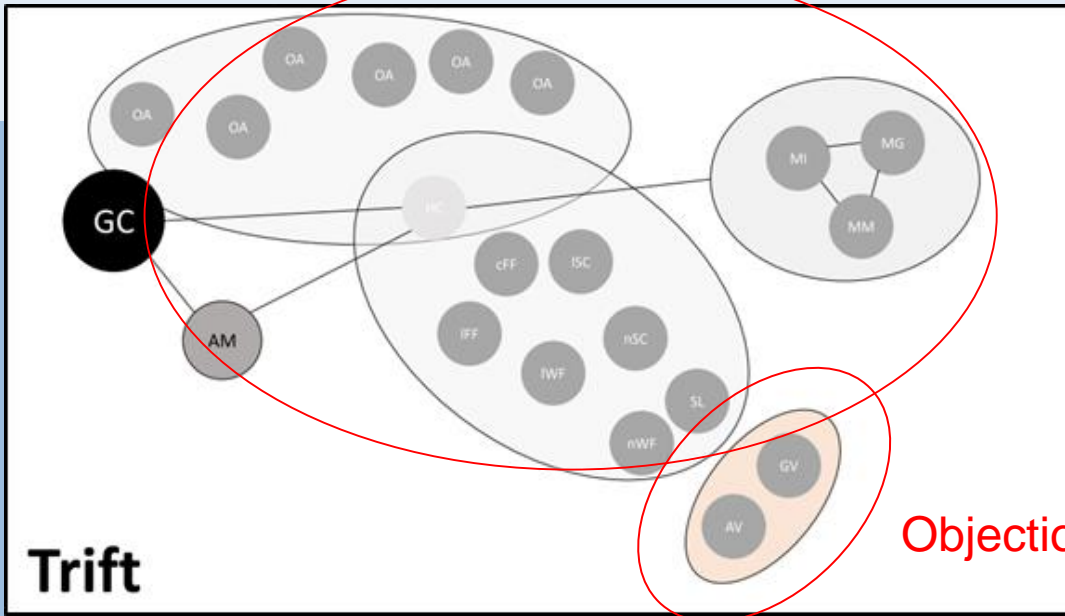
Argumentation Federal Supreme Court

- > «Einer Umgrenzung bis zum heutigen Stauziel stehen [...] erhebliche öffentliche und private Interessen [...] am Ausbau [...] entgegen.»

Results

2

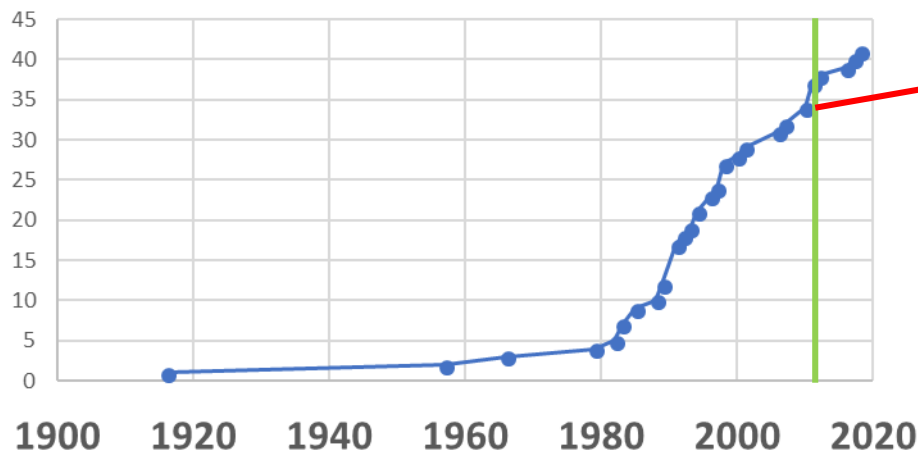
Participation Process



- > Local action ✓
- > Mutual adjustment ✓
- > Experimentation ✓
- > Trust ✓
- > Overarching rules ✓

Acts and ordinances

Trift



2011: Energy Strategy 2050
 2016: Energy Act
 2017: Vote on new Energy Act
 2018: new Energy Act

→ Same goal:
 - Expansion of renewable energy

Argumentations NGOs Trift

- > «Denn das Kraftwerk produziert Strom, der auch wirklich gebraucht wird. Nämlich Speicherstrom, Winterstrom und flexiblen Strom», Jörg Rüetschi, WWF Bern
 - > «Die Kompensationsmassnahmen, welche vor Ort umgesetzt werden, bedeuten einen Mehrwert für die lokale Gewässerökologie.» Hans Zybach, Fischereiverein Oberhasli
 - > «Staumauer und Stausee werden die Landschaft deutlich verändern. Eine natürliche Gletscher- und Auenlandschaft wird zur Energielandschaft.» Jan Ryser, Pro Natura Bern
 - > «Wir erwarten nun, dass die wertvollen Gewässer geschont werden und auf den Zubau von problematischen Kleinwasserkraftwerken verzichtet wird», Markus Meyer, Bernisch Kantonaler Fischereiverband
- > EnG
 - > NHG
 - > Art. 18
 - > NHG
 - > Art. 3
 - > GSchG

Results

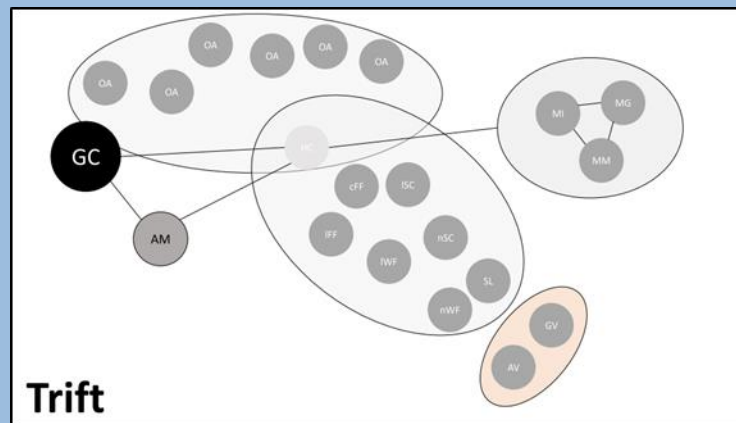
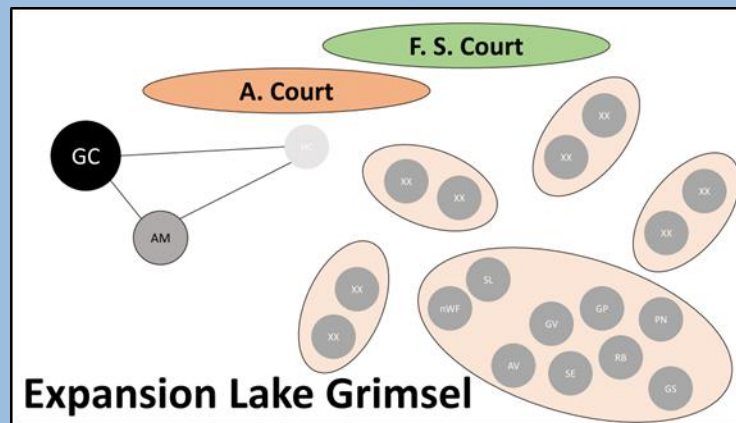
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Conditions of polycentric governance

- Local action
- Mutual adjustment
- Experimentation
- Trust
- Overarching rules

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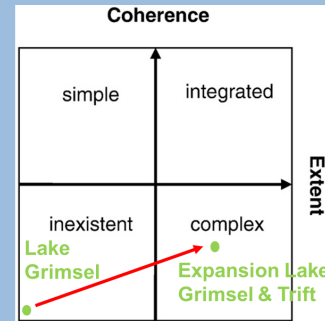
Coordination of resource use



Summary

1

Complex regime (high extent and low coherence)
→ high degree of polycentricity

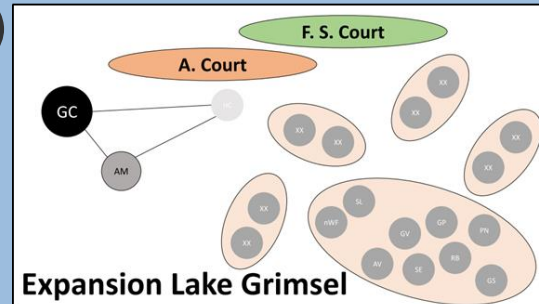


2 Polycentric governance contributes to a better coordination of resource claims through

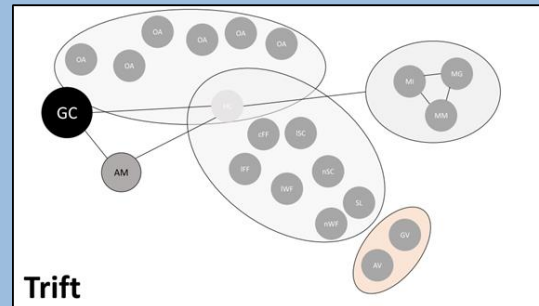
- Local action
- Mutual adjustment
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Lake Grimsel



Expansion Lake Grimsel



Trift

Some learnings

- > Dealing with an incoherent regime
- > Very good design of the process

- > **Mutual adjustment** and **trust** → participation process
 - Partizipation of all relevant actors
 - Sufficient time for mutual understanding

- > **Overarching rules**
 - Shared vision /shared goal

- > Problem framing
 - Shared understanding of the problems

- Shared understanding of reality

A wide-angle landscape photograph of a high-altitude mountain valley. In the foreground, a calm, turquoise-colored lake is nestled in a rocky basin. The lake's water has a milky, mineral-rich appearance. Behind the lake, a steep, rocky valley floor leads up to a large, flowing glacier that fills the upper part of the valley. The glacier is a mix of white ice and dark rock fragments. In the background, jagged mountain peaks are visible, some with patches of snow or ice. The sky is blue with scattered white clouds. The overall scene is one of a pristine, rugged natural environment.

Thanks

Dr. Alfred Bretscher Fund